American College of Radiology
ACR Appropriateness Criteria®

Dizziness and Ataxia

Variant 1: Adult. Brief episodic vertigo. Triggered by specific head movements (eg, Dix-Hallpike maneuver). Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	2	0	0	0	0	0	0
CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	0	2	1	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	2	0	0	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	17	0	2	1	0	0	0	0	0
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	13	2	2	2	0	0	0	0	0
	References		Study Quality												
	6 (32462345)		4												
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	17	2	1	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	16	1	0	1	2	0	0	0	0
MRA head and neck without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	13	2	2	1	1	0	0	0	0

		References		Study Quality											
		23 (23903461)		2											
MRA head and neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	0	2	2	1	0	1	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	1	1	0	0	0	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	13	2	1	0	1	2	0	0	0
		References		Study Quality											
		21 (28943053)		2											
MRI head without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	12	2	2	3	0	0	0	0	0
		References		Study Quality											
		24 (28390809)		1											
MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	12	2	1	2	2	0	0	0	0
		References		Study Quality											
		6 (32462345)		4											
		20 (29056234)		4											
MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	2	0	0	0	0	0	0
MRI cervical and thoracic spine without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	2	0	0	0	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	2	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	1	1	1	0	1	0	0
MRA head and neck with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	0	3	1	1	0	1	0	0

MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	0	0	2	2	0	2	0	0

Variant 2: Adult. Acute persistent vertigo. Normal neurologic examination and HINTS examination examination consistent with peripheral vertigo. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI head without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	3	2	0	4	9	0	0	0	1

References	Study Quality
29 (24920847)	2
39 (28687453)	2
38 (25307984)	2
37 (23722117)	4

CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	1	1	0	1	0	0	0	0
CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	15	1	1	3	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	1	1	0	0	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	18	1	0	0	0	0	1	0	0
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	2	1	2	3	0	0	0	0

References	Study Quality
28 (27495834)	3

CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0

CTA head and neck with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	14	0	2	3	1	0	0	0	0
MRA head and neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	2	2	0	0	1	0	0
MRA head and neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	2	2	0	0	1	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	1	1	2	1	0	1	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	10	2	2	1	3	1	0	0	0

References	Study Quality
1 (29395695)	4
34 (22844866)	2
36 (31531775)	2
35 (32079028)	2

MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	10	2	3	1	3	0	0	0	0

References	Study Quality
25 (30882702)	2

MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
MRI cervical and thoracic spine without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	19	0	1	0	0	0	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	1	0	1	0	1	0	0
MRA head and neck with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	2	2	0	0	1	0	0

MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	2	0	1	0	1	0	0

Variant 3: Adult. Acute persistent vertigo. Abnormal neurologic examination or HINTS examination is consistent with central vertigo. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	1	1	0	0	3	5	10

References	Study Quality
46 (25956665)	3
29 (24920847)	2
30 (24127701)	2
2 (22940762)	4
1 (29395695)	4
6 (32462345)	4
47 (21986058)	2
45 (20861624)	2
44 (21330074)	4
37 (23722117)	4

CT head without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	6	6	0	0	1	1	4	4	2	3	5

References	Study Quality
2 (22940762)	4
6 (32462345)	4

CTA head and neck with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	3	0	0	1	5	5	4	1	0
MRA head and neck without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	0	0	2	9	4	1	0	0

MRA head and neck without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	0	0	1	6	4	5	0	0
MRI head without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	4	0	0	0	1	1	6	6	1
MRA head and neck with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	0	0	2	9	3	2	0	0
CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	1	2	0	0	0	0	0	0
CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	16	1	2	1	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	1	2	0	0	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	15	2	1	1	0	0	1	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	5	2	0	1	0	0	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	0	3	1	1	1	0	1	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	3	1	1	0	0	0	0
MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	2	0	0	0	0	0	0
MRI cervical and thoracic spine without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	2	0	0	0	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	2	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	2	0	0	0	0	0	0

MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	0	4	1	1	0	0	0	0

Variant 4: Adult. Chronic recurrent vertigo. Associated with unilateral hearing loss or tinnitus. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT temporal bone without IV contrast	Usually appropriate	Strong	☢☢☢ 1-10 mSv		7	7	1	0	0	0	4	4	3	6	2

References	Study Quality
49 (25913283)	2
48 (32537729)	2
50 (32867723)	2

MRI head and internal auditory canal without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	2	5	5	1	7

References	Study Quality
67 (27187035)	4
56 (25742875)	2
54 (25457542)	2
65 (31356219)	4
52 (32241307)	4
58 (30550412)	2
61 (30556402)	2
63 (30600169)	2
53 (31743294)	2
66 (30337432)	2
60 (30719545)	2
55 (33646188)	4
62 (33528304)	2
57 (35759015)	2

59 (25456512)	2
64 (33492418)	2
51 (34142211)	4

MRI head and internal auditory canal without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	2	12	3	1	0	0
CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	16	1	1	1	0	0	1	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	2	0	0	0	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	18	1	0	0	0	0	0	0	0
CT head without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	17	2	0	0	0	0	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	18	1	0	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	18	1	0	0	0	0	0	0	0
MRA head and neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	2	0	1	0	1	0	0
MRA head and neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	2	0	1	0	1	0	0
MRI head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	2	1	0	0	0	0	0	0
MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	2	1	0	0	0	0	0	0
MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0

MRI cervical and thoracic spine without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	2	0	0	0	0	0	0	0
MRA head and neck with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	2	0	1	0	1	0	0
MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	1	0	1	0	0	0	0	0

Variant 5: Adult. Chronic recurrent vertigo. Associated with other brainstem neurologic deficits. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA head and neck with IV contrast	Usually appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	1	0	0	0	3	1	2	6	7
References			Study Quality												
14 (22931729)			4												
MRA head and neck without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	1	0	0	0	1	0	4	8	5
References			Study Quality												
14 (22931729)			4												
69 (27000236)			4												
13 (31967281)			2												
MRI head without IV contrast	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	8	8	1	0	0	0	2	0	6	6	4
MRA head and neck without IV contrast	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	7	7	1	0	0	0	5	0	5	4	4

MRA head and neck with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	1	0	0	0	1	0	9	4	4

References	Study Quality
14 (22931729)	4
69 (27000236)	4
13 (31967281)	2

CT head without IV contrast	May be appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	1	1	0	2	11	3	0	0	1
MRI head without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	2	0	1	0	2	3	2	6	3

References	Study Quality
70 (22920240)	2
71 (22878005)	2
68 (22555580)	2

CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	2	0	0	0	0	0	0
CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	0	1	1	0	0	1	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	2	0	0	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	16	1	2	1	0	0	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	17	1	2	0	0	0	0	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	0	0	0	2	2	0	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	1	0	0	0	0	1	0

MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	19	0	1	0	0	0	0	0	0
MRI cervical and thoracic spine without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	1	0	0	1	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	19	0	1	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	0	1	1	0	0	0	0
MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	1	1	0	0	0	0	0

Variant 6: Adult. Chronic disequilibrium with signs of cerebellar ataxia. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI head without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	0	5	6	7
	References	Study Quality													
	82 (24375449)	3													
	83 (23118909)	2													
	84 (35732792)	2													
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	2	5	5	3	5
	References	Study Quality													
	82 (24375449)	3													
	83 (23118909)	2													
	84 (35732792)	2													
MRI cervical and thoracic spine without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	2	12	2	2	0	0
	References	Study Quality													

79 (34210665)	2
81 (27173364)	4
78 (28386793)	2
80 (30473193)	4

CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	1	0	1	0	0	0	0
CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	1	0	0	0	1	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	1	0	1	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	19	0	1	0	0	0	0	0	0
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	1	3	0	4	0	1	0	0

References	Study Quality
76 (21827916)	4

CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	19	0	1	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	16	0	1	1	1	0	1	0	0
MRA head and neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	0	0	3	0	0	1	0
MRA head and neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	1	0	0	0	0	1	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	0	0	0	0	1	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	1	0	0	0	0	1	0	0

MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	2	0	1	1	0	1	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	2	1	0	1	0	1	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	1	0	0	0	0
MRA head and neck with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	0	0	3	1	1	0	0
MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	0	0	1	1	1	0	0

Variant 7: Adult. Chronic disequilibrium with signs of sensory or proprioceptive ataxia. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI cervical and thoracic spine without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	2	4	5	5	3
		References		Study Quality											
		79 (34210665)		2											
		78 (28386793)		2											
		80 (30473193)		4											
MRI cervical and thoracic spine without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	1	4	9	1	4
		References		Study Quality											
		79 (34210665)		2											
		78 (28386793)		2											
		80 (30473193)		4											
CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	2	0	0	0	0	0	0

CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	17	0	2	1	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	2	0	0	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
CT head without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	17	0	0	0	1	0	1	1	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	16	0	0	2	0	0	1	1	0
MRA head and neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	0	0	2	0	1	1	0
MRA head and neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	0	1	0	2	1	0	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	1	0	1	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	0	0	1	1	0
MRI head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	1	2	0	3	0	1	0	0
MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	2	0	0	1	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	2	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	1	2	0	2	0	1	1	0

MRA head and neck with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	1	1	2	1	0	0	0
MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	1	1	0	0	0

Variant 8: Adult. Nonspecific dizziness without vertigo, ataxia, or other neurologic deficits. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	1	10	4	3	0	0

References	Study Quality
4 (32618835)	2
37 (23722117)	4

CT temporal bone with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	1	1	0	0	0	0	0
CT temporal bone without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	1	0	1	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	18	0	1	0	1	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	18	1	1	0	0	0	0	0	0
CT head without IV contrast	Usually not appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	2	1	0	3	1	1	0	0

References	Study Quality
2 (22940762)	4
4 (32618835)	2
3 (33487089)	2

CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	17	2	1	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	12	2	1	1	2	0	1	0	0

References	Study Quality
3 (33487089)	2

MRA head and neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	1	4	1	2	0	0	0	0
MRA head and neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	0	3	2	1	1	0	1	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	1	1	0	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	0	0	1	1	0
MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	0	1	2	1	0	0	1	1
MRI cervical and thoracic spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	0	0	1	0	1	0	0
MRI cervical and thoracic spine without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	0	0	1	1	0	0	0
MRI cervical and thoracic spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	18	0	0	0	1	1	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	0	1	0	2	0	1	0	0
MRA head and neck with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	0	5	1	1	0	0	0	0
MRI head and internal auditory canal with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	1	0	1	1	0	0	0

Appendix Key

A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

Appropriateness Category: The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

SOE: Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality**: The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

RRL: Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

Rating: The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Median: The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Final tabulations: A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at **www.acr.org/ac.**